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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,717	02/11/2004	Yoshiki Kino	1232-5283	2826
27123	7590	12/07/2006		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER GUTIERREZ, KEVIN C	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/776,717	Applicant(s) KINO, YOSHIKI	
	Examiner Kevin Gutierrez	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7, 8, 10-13, 15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5, 7, 8, 10-13, 15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 18, 2006 have been fully considered. The objections to the specification and drawings and rejections under 35 USC 112 have been withdrawn. However, the previous applied reference, Miyajima, discloses the amended limitation(s) (claim 2) "wherein the rear surface is defined by a cut-out portion." Figure 3B, the underneath-surface of the mirror 30 and the mirror support member 32 forms a cut-out portion. Further, the underneath-surface of the mirror 30 can be broadly interpreted as a cut-out portion of itself. Therefore, Miyajima and the provided references disclose the claimed invention. Thus, rendering the instant application as unpatentable.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 2-5, 7-8, 10-13, 15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyajima (US 2005/0073663).

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The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 2, Miyajima discloses • a base (30; mirror, 32; mirror support member) having a reflecting surface (see fig. 3B, where exposure light 2d is reflected off surface of mirror 30) to be illuminated by light (2d), and a rear surface opposite to the reflecting surface, wherein the rear surface is defined by a cut-out portion (fig. 3B, where cut-out portion is defined by the rear surface of mirror 30 and mirror support member 32); and

“a cooling mechanism (fig. 3A; 23a-e and 24a-e and fig. 3B; 25a-f, are radiation plates, coolant pipes, and coolant), accommodated by the cut-out portion, for cooling said base through radiation in a non-contact manner ([0065], lines 2-5, fig. 3B, radiation plates 25c-f are located at a distances where they in non-contact with mirror 30 or mirror support member 32).”

Regarding claim 3, Miyajima discloses “wherein the surface has an area to be illuminated, and the cut-out portion located opposite to the area on the reflecting surface (see Fig. 3B, where the illuminated surface is the U-shaped surface of 30 illuminated by 2d and is opposite to the first concave part, which is formed by the lower surface of 30 and with the surrounding enclosure of 32).

Regarding claim 4, Miyajima discloses “a radiation plate (25c-f) accommodated by the cut-out portion (opposite of mirror 30 surface); and a Peltier element that cools the radiation plate ([0061], lines 11-12).”

Regarding claim 5, Miyajima discloses “wherein said cooling mechanism has a channel (fig. 3B, #23a-e) for coolant (fig. 3B, #24a-e) to flow, and further includes a cooling jacket for recovering heat from the Peltier element ([0040], lines 10-13).”

Regarding claims 7 and 8, Miyajima discloses wherein the rear surface is defined by the cut-out portion and another cut-out portion (the upper U-shaped surface of mirror 30) at a position different from that of the cut-out portion in a non-illuminated area (see Fig. 3B, where exposure light 2d illuminates the U-shaped surface of mirror 30).

Regarding claim 10, Miyajima discloses “wherein the cut-out portion has a shape that changes according to temperature distributions on the surface to be illuminated ([0037], lines 13-17, where temperature rise due to exposure causes displacement of surface).”

Regarding claim 11, Miyajima discloses “wherein the cooling mechanism changes cooling power based on a position according to temperature distributions on the surface to be illuminated ([0039], lines 2-4).”

Regarding claim 12, Miyajima discloses “further comprising a mirror (30).”

Regarding claim 13, Miyajima discloses

- “a detector (27a; thermometer) for detecting a temperature of said base (fig. 4, where a thermometer 27a is utilized for the temperature detection unit 27; and

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- a controller (28) for controlling said cooling mechanism so that the temperature of said base detected by said detector becomes a predetermined value ([0043], lines 8-12).”

Regarding claims 15 and 17, Miyajima discloses the claimed limitations set forth in claim 2 and further discloses “an exposure apparatus comprising an optical system for exposing a pattern formed on a mask or a reticle onto an object ([0002], lines 1-2 and lines 9-11)” and “developing the exposed object (fig. 12, step 4).”

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being obvious over Miyajima in view of Loopstra et al (US 20001/0013925).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

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Miyajima discloses a cooling mechanism, but does not disclose a heat insulator to prevent the base from absorbing heat.

However, it would have been obvious "wherein said cooling mechanism further includes a heat insulator for preventing the base from absorbing heat obtained by cut-out portion" as taught by Loopstra et al (fig. 4, #540 is a heat shield to prevent thermal load on to "WH" (substrate holder). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the optical element of Miyajima by including a heat shield within the cooling mechanism, which would substantially surround the radiation plates 25c-f, for at least the purpose to maintain longer exposure intervals.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Gutierrez whose telephone number is (571)-272-5922. The examiner can normally be reached on Monday-Friday: 8:00 a.m. - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571)-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Gutierrez
Examiner
Art Unit 2851

December 4, 2006

Rodney Fuller
Primary Examiner

A handwritten signature in black ink, appearing to read 'R. Fuller', is written over the printed name of the Primary Examiner.